[Title of the Document] ABSTRACT

A control system which is capable of enhancing the accuracy of control, when the output of a controlled object is controlled with a control algorithm to which is applied a modulation algorithm based on one of a Δ modulation algorithm, a $\Delta\Sigma$ modulation algorithm, and a $\Sigma\Delta$ modulation algorithm, even if the absolute value of an input value to the modulation algorithm continues to be larger than 1 for a long time. The control system 1 for controlling the cam phase Cain of an intake cam 5 includes an ECU 2. The ECU 2 calculates a limited value deviation r2 for control of the cam phase Cain by equations (1) to (10), modulates the limited value deviation r2 with an algorithm expressed by equations (11) to (13) based on the $\Delta\Sigma$ modulation algorithm to thereby calculate a modulation output u" as a predetermined value $\pm R$ ($R > |r2|$), and calculates a control output Vcain to the electromagnetic variable cam phase mechanism 30 based on the predetermined value $\pm R$ (steps 5 and 6).